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SEQUENCE LISTING

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GURPEGUI, ISABEL SOLA

<120> VECTORS BASED ON RECOMBINANT DEFECTIVE VIRAL GENOMES,
AND THEIR USE IN THE FORMULATION OF VACCINES

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<151> 1997-03-12

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attaagaaga tggttaccag atgatgccat attggttgat aatgatttga gagattacgt 8615
ttccgacgca gacttcagtg ttacagggtga ttgtactagt ctttacatcg aagacaagtt 8675
tgatttgctc gtctctgatt tatatgatgg ctccacaaaa tcaattgacg gtgaaaacac 8735
gtcgaaagat ggtttcttta cttatattaa tggtttcatt aaagagaaac tgtcacttgg 8795
tggatctggt gccattaaaa tcacggaatt tagttggaat aaagatttat atgaattgat 8855
tcaaagattt gagtattgga ctgtgttttg tacaagtgtt aacacgcat catcagaagg 8915
ctttctgatt ggtattaact acttaggacc atactgtgac aaagcaatag tagatggaaa 8975
tataatgcat gccaattata tattttggag aaactctaca attatggctc tatcacataa 9035
ctcagtccta gacactccta aattcaagtg tcgttgtaac aacgcactta ttgttaattt 9095
aaaagaaaaa gaattgaatg aaatgggcat tggattacta aggaagggtg agttgctcat 9155
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tgctgtattt attacagttt taatcttact actaattggg agactccaat tattagaaag 9275
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cgtgtaatag gaggtacaag caaccctatt gcatattagg aagtttagat ttgatttggc 9575
aatgctagat ttagtaattt agagaagttt aaagatccgc tacgacgagc caacaatgga 9635
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<210> 25

<211> 667

<212> PRT

<213> Transmissible gastroenteritis coronavirus

<220>

<221> MOD_RES

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<223> Gly or Val

13

<400> 25

Met	Ser	Ser	Lys	Gln	Phe	Lys	Ile	Leu	Val	Asn	Glu	Asp	Tyr	Gln	Val
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Asn	Val	Pro	Ser	Leu	Pro	Ile	Arg	Asp	Val	Leu	Gln	Glu	Ile	Lys	Tyr
			20					25					30		
Cys	Tyr	Arg	Asn	Gly	Phe	Glu	Gly	Tyr	Val	Phe	Val	Pro	Glu	Tyr	Cys
		35					40					45			
Arg	Asp	Leu	Val	Asp	Cys	Asp	Arg	Lys	Asp	His	Tyr	Val	Ile	Gly	Val
	50					55					60				
Leu	Gly	Asn	Gly	Val	Ser	Asp	Leu	Lys	Pro	Val	Leu	Leu	Thr	Glu	Pro
65					70					75					80
Ser	Val	Met	Leu	Gln	Gly	Phe	Ile	Val	Arg	Ala	Asn	Cys	Asn	Gly	Val
				85					90					95	
Leu	Glu	Asp	Phe	Asp	Leu	Lys	Ile	Ala	Arg	Thr	Xaa	Arg	Gly	Ala	Ile
			100					105					110		
Tyr	Val	Asp	Gln	Tyr	Met	Cys	Gly	Ala	Asp	Gly	Lys	Pro	Val	Ile	Glu
		115					120					125			
Gly	Asp	Phe	Lys	Asp	Tyr	Phe	Gly	Asp	Glu	Asp	Ile	Ile	Glu	Phe	Glu
	130					135					140				
Gly	Glu	Glu	Tyr	His	Cys	Ala	Trp	Thr	Thr	Val	Arg	Asp	Glu	Lys	Pro
145					150					155					160
Leu	Asn	Gln	Gln	Thr	Leu	Phe	Thr	Ile	Gln	Glu	Ile	Gln	Tyr	Asn	Leu
				165					170					175	
Asp	Ile	Pro	His	Lys	Leu	Pro	Asn	Cys	Ala	Thr	Arg	His	Val	Ala	Pro
			180					185					190		
Pro	Val	Lys	Lys	Asn	Ser	Lys	Ile	Val	Leu	Ser	Glu	Asp	Tyr	Lys	Lys
		195					200					205			
Leu	Tyr	Asp	Ile	Phe	Gly	Ser	Pro	Phe	Met	Gly	Asn	Gly	Asp	Cys	Leu
	210					215					220				
Ser	Lys	Cys	Phe	Asp	Thr	Leu	His	Phe	Ile	Ala	Ala	Thr	Leu	Arg	Cys
225					230					235					240
Pro	Cys	Gly	Ser	Glu	Ser	Ser	Gly	Val	Gly	Asp	Trp	Thr	Gly	Phe	Lys
				245					250					255	
Thr	Ala	Cys	Cys	Gly	Leu	Ser	Gly	Lys	Val	Lys	Gly	Val	Thr	Leu	Gly
			260					265					270		
Asp	Ile	Lys	Pro	Gly	Asp	Ala	Val	Val	Thr	Ser	Met	Ser	Ala	Gly	Lys
		275					280					285			
Gly	Val	Lys	Phe	Phe	Ala	Asn	Cys	Val	Leu	Gln	Tyr	Ala	Gly	Asp	Val
	290					295					300				

Glu	Gly	Val	Ser	Ile	Trp	Lys	Val	Ile	Lys	Thr	Phe	Thr	Val	Asp	Glu
305					310					315					320
Thr	Val	Cys	Thr	Pro	Gly	Phe	Glu	Gly	Glu	Leu	Asn	Asp	Phe	Ile	Lys
				325					330					335	
Pro	Glu	Ser	Lys	Ser	Leu	Val	Ala	Cys	Ser	Val	Lys	Arg	Ala	Phe	Ile
			340					345					350		
Thr	Gly	Asp	Ile	Asp	Asp	Ala	Val	His	Asp	Cys	Ile	Ile	Thr	Gly	Lys
		355					360					365			
Leu	Asp	Leu	Ser	Thr	Asn	Leu	Phe	Gly	Asn	Val	Gly	Leu	Leu	Phe	Lys
	370					375					380				
Lys	Thr	Pro	Trp	Phe	Val	Gln	Lys	Cys	Gly	Ala	Leu	Phe	Val	Asp	Ala
385					390					395					400
Trp	Lys	Val	Val	Glu	Glu	Leu	Cys	Gly	Ser	Leu	Thr	Leu	Thr	Tyr	Lys
				405					410					415	
Gln	Ile	Tyr	Glu	Val	Val	Ala	Ser	Leu	Cys	Thr	Ser	Ala	Phe	Thr	Ile
			420					425					430		
Val	Asn	Tyr	Lys	Pro	Thr	Phe	Val	Val	Pro	Asp	Asn	Arg	Val	Lys	Asp
		435					440					445			
Leu	Val	Asp	Lys	Cys	Val	Lys	Val	Leu	Val	Lys	Ala	Phe	Asp	Val	Phe
	450					455					460				
Thr	Gln	Ile	Ile	Thr	Ile	Ala	Gly	Ile	Glu	Ala	Lys	Cys	Phe	Val	Leu
465					470					475					480
Gly	Ala	Lys	Tyr	Leu	Leu	Phe	Asn	Asn	Ala	Leu	Val	Lys	Leu	Val	Ser
				485					490					495	
Val	Lys	Ile	Leu	Gly	Lys	Lys	Gln	Lys	Gly	Leu	Glu	Cys	Ala	Phe	Phe
			500					505					510		
Ala	Thr	Ser	Leu	Val	Gly	Ala	Thr	Val	Asn	Val	Thr	Pro	Lys	Arg	Thr
		515					520					525			
Glu	Thr	Ala	Thr	Ile	Ser	Leu	Asn	Lys	Val	Asp	Asp	Val	Val	Ala	Pro
		530				535					540				
Gly	Glu	Gly	Tyr	Ile	Val	Ile	Val	Gly	Asp	Met	Ala	Phe	Tyr	Lys	Ser
545					550					555					560
Gly	Glu	Tyr	Tyr	Phe	Met	Met	Ser	Ser	Pro	Asn	Phe	Val	Leu	Thr	Asn
				565					570					575	
Asn	Val	Phe	Lys	Ala	Val	Lys	Val	Pro	Ser	Tyr	Asp	Ile	Val	Tyr	Asp
			580					585					590		
Val	Asp	Asn	Asp	Thr	Lys	Ser	Lys	Met	Ile	Ala	Lys	Leu	Gly	Ser	Ser
		595					600					605			

15

Phe	Glu	Gln	Ile	Pro	Thr	Gly	Thr	Gln	Asp	Pro	Ile	Arg	Phe	Cys	Ile
610						615					620				
Glu	Asn	Glu	Val	Cys	Val	Val	Cys	Gly	Cys	Trp	Leu	Asn	Asn	Gly	Cys
625					630					635					640
Met	Cys	Asp	Arg	Thr	Ser	Met	Gln	Ser	Phe	Thr	Val	Asp	Gln	Ser	Tyr
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Leu	Asn	Glu	Cys	Gly	Val	Leu	Val	Gln	Leu	Asp					
			660					665							

<210> 26
 <211> 1470
 <212> PRT
 <213> Transmissible gastroenteritis coronavirus

<220>
 <221> MOD_RES
 <222> (1405)
 <223> Ile or Val

<400> 26

Ser	Lys	Leu	Phe	Lys	Arg	Val	Arg	Gly	Ser	Ser	Ala	Ala	Arg	Leu	Glu
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Pro	Cys	Asn	Gly	Thr	Asp	Pro	Asp	His	Val	Ser	Arg	Ala	Phe	Asp	Ile
			20					25					30		
Tyr	Asn	Lys	Asp	Val	Ala	Cys	Ile	Gly	Lys	Phe	Leu	Lys	Thr	Asn	Cys
	35						40					45			
Ser	Arg	Phe	Arg	Asn	Leu	Asp	Lys	His	Asp	Ala	Tyr	Tyr	Ile	Val	Lys
	50					55					60				
Arg	Cys	Thr	Lys	Thr	Val	Met	Asp	His	Glu	Gln	Val	Cys	Tyr	Asn	Asp
	65				70					75					80
Leu	Lys	Asp	Ser	Gly	Ala	Val	Ala	Glu	His	Asp	Phe	Phe	Thr	Tyr	Lys
				85					90					95	
Glu	Gly	Arg	Cys	Glu	Phe	Gly	Asn	Val	Ala	Arg	Arg	Asn	Leu	Thr	Lys
			100					105					110		
Tyr	Thr	Met	Met	Asp	Leu	Cys	Tyr	Ala	Ile	Arg	Asn	Phe	Asp	Glu	Lys
		115					120					125			
Asn	Cys	Glu	Val	Leu	Lys	Glu	Ile	Leu	Val	Thr	Val	Gly	Ala	Cys	Thr
		130				135					140				
Glu	Glu	Phe	Phe	Glu	Asn	Lys	Asp	Trp	Phe	Asp	Pro	Val	Glu	Asn	Glu
145					150					155					160
Ala	Ile	His	Glu	Val	Tyr	Ala	Lys	Leu	Gly	Pro	Ile	Val	Ala	Asn	Ala
				165					170					175	

16

Met	Leu	Lys	Cys	Val	Ala	Phe	Cys	Asp	Ala	Ile	Val	Glu	Lys	Gly	Tyr	180	185	190
Ile	Gly	Val	Ile	Thr	Leu	Asp	Asn	Gln	Asp	Leu	Asn	Gly	Asn	Phe	Tyr	195	200	205
Asp	Phe	Gly	Asp	Phe	Val	Lys	Thr	Ala	Pro	Gly	Phe	Gly	Cys	Ala	Cys	210	215	220
Val	Thr	Ser	Tyr	Tyr	Ser	Tyr	Met	Met	Pro	Leu	Met	Gly	Met	Thr	Ser	225	230	235
Cys	Leu	Glu	Ser	Glu	Asn	Phe	Val	Lys	Ser	Asp	Ile	Tyr	Gly	Ser	Asp	245	250	255
Tyr	Lys	Gln	Tyr	Asp	Leu	Leu	Ala	Tyr	Asp	Phe	Thr	Glu	His	Lys	Glu	260	265	270
Tyr	Leu	Phe	Gln	Lys	Tyr	Phe	Lys	Tyr	Trp	Asp	Arg	Thr	Tyr	His	Pro	275	280	285
Asn	Cys	Ser	Asp	Cys	Thr	Ser	Asp	Glu	Cys	Ile	Ile	His	Cys	Ala	Asn	290	295	300
Phe	Asn	Thr	Leu	Phe	Ser	Met	Thr	Ile	Pro	Met	Thr	Ala	Phe	Gly	Pro	305	310	315
Leu	Val	Arg	Lys	Val	His	Ile	Asp	Gly	Val	Pro	Val	Val	Val	Thr	Ala	325	330	335
Gly	Tyr	His	Phe	Lys	Gln	Leu	Gly	Ile	Val	Trp	Asn	Leu	Asp	Val	Lys	340	345	350
Leu	Asp	Thr	Met	Lys	Leu	Ser	Met	Thr	Asp	Leu	Leu	Arg	Phe	Val	Thr	355	360	365
Asp	Pro	Thr	Leu	Leu	Val	Ala	Ser	Ser	Pro	Ala	Leu	Leu	Asp	Gln	Arg	370	375	380
Thr	Val	Cys	Phe	Ser	Ile	Ala	Ala	Leu	Ser	Thr	Gly	Ile	Thr	Tyr	Gln	385	390	395
Thr	Val	Lys	Pro	Gly	His	Phe	Asn	Lys	Asp	Phe	Tyr	Asp	Phe	Ile	Thr	405	410	415
Glu	Arg	Gly	Phe	Phe	Glu	Glu	Gly	Ser	Glu	Leu	Thr	Leu	Lys	His	Phe	420	425	430
Phe	Phe	Ala	Gln	Gly	Gly	Glu	Ala	Ala	Met	Thr	Asp	Phe	Asn	Tyr	Tyr	435	440	445
Arg	Tyr	Asn	Arg	Val	Thr	Val	Leu	Asp	Ile	Cys	Gln	Ala	Gln	Phe	Val	450	455	460
Tyr	Lys	Ile	Val	Gly	Lys	Tyr	Phe	Glu	Cys	Tyr	Asp	Gly	Gly	Cys	Ile	465	470	475
																		480

17

Asn	Ala	Arg	Glu	Val	Val	Val	Thr	Asn	Tyr	Asp	Lys	Ser	Ala	Gly	Tyr		
				485					490					495			
Pro	Leu	Asn	Lys	Phe	Gly	Lys	Ala	Arg	Leu	Tyr	Tyr	Glu	Thr	Leu	Ser		
			500					505					510				
Tyr	Glu	Glu	Gln	Asp	Ala	Leu	Phe	Ala	Leu	Thr	Lys	Arg	Asn	Val	Leu		
		515					520					525					
Pro	Thr	Met	Thr	Gln	Met	Asn	Leu	Lys	Tyr	Ala	Ile	Ser	Gly	Lys	Ala		
	530					535					540						
Arg	Ala	Arg	Thr	Val	Gly	Gly	Val	Ser	Leu	Leu	Ser	Thr	Met	Thr	Thr		
545					550					555					560		
Arg	Gln	Tyr	His	Gln	Lys	His	Leu	Lys	Ser	Ile	Ala	Ala	Thr	Arg	Asn		
			565						570					575			
Ala	Thr	Val	Val	Ile	Gly	Ser	Thr	Lys	Phe	Tyr	Gly	Gly	Trp	Asp	Asn		
			580					585					590				
Met	Leu	Lys	Asn	Leu	Met	Arg	Asp	Val	Asp	Asn	Gly	Cys	Leu	Met	Gly		
		595					600					605					
Trp	Asp	Tyr	Pro	Lys	Cys	Asp	Arg	Ala	Leu	Pro	Asn	Met	Ile	Arg	Met		
	610					615					620						
Ala	Ser	Ala	Met	Ile	Leu	Gly	Ser	Lys	His	Val	Gly	Cys	Cys	Thr	His		
625					630					635					640		
Asn	Asp	Arg	Phe	Tyr	Arg	Leu	Ser	Asn	Glu	Leu	Ala	Gln	Val	Leu	Thr		
			645						650					655			
Glu	Val	Val	His	Cys	Thr	Gly	Gly	Phe	Tyr	Phe	Lys	Pro	Gly	Gly	Thr		
			660					665					670				
Thr	Ser	Gly	Asp	Gly	Thr	Thr	Ala	Tyr	Ala	Asn	Ser	Ala	Phe	Asn	Ile		
		675					680					685					
Phe	Gln	Ala	Val	Ser	Ala	Asn	Val	Asn	Lys	Leu	Leu	Gly	Val	Asp	Ser		
	690					695					700						
Asn	Ala	Cys	Asn	Asn	Val	Thr	Val	Lys	Ser	Ile	Gln	Arg	Lys	Ile	Tyr		
705					710					715				720			
Asp	Asn	Cys	Tyr	Arg	Ser	Ser	Ser	Ile	Asp	Glu	Glu	Phe	Val	Val	Glu		
			725						730					735			
Tyr	Phe	Ser	Tyr	Leu	Arg	Lys	His	Phe	Ser	Met	Met	Ile	Leu	Ser	Asp		
			740					745					750				
Asp	Gly	Val	Val	Cys	Tyr	Asn	Lys	Asp	Tyr	Ala	Asp	Leu	Gly	Tyr	Val		
		755					760					765					
Ala	Asp	Ile	Asn	Ala	Phe	Lys	Ala	Thr	Leu	Tyr	Tyr	Gln	Asn	Asn	Val		
	770					775					780						

18

Phe 785	Met	Ser	Thr	Ser	Lys 790	Cys	Trp	Val	Glu	Pro 795	Asp	Leu	Ser	Val	Gly 800
Pro	His	Glu	Phe	Cys 805	Ser	Gln	His	Thr	Leu 810	Gln	Ile	Val	Gly	Pro	Asp 815
Gly	Asp	Tyr	Tyr	Leu 820	Pro	Tyr	Pro	Asp 825	Pro	Ser	Arg	Ile	Leu	Ser	Ala 830
Gly	Val	Phe 835	Val	Asp	Asp	Ile	Val 840	Lys	Thr	Asp	Asn	Val 845	Ile	Met	Leu
Glu	Arg	Tyr	Val	Ser	Leu	Ala 855	Ile	Asp	Ala	Tyr	Pro 860	Leu	Thr	Lys	His
Pro	Lys	Pro	Ala	Tyr	Gln 870	Lys	Val	Phe	Tyr	Thr 875	Leu	Leu	Asp	Trp	Val 880
Lys	His	Leu	Gln	Lys 885	Asn	Leu	Asn	Ala	Gly 890	Val	Leu	Asp	Ser	Phe	Ser 895
Val	Thr	Met	Leu 900	Glu	Glu	Gly	Gln	Asp 905	Lys	Phe	Trp	Ser	Glu 910	Glu	Phe
Tyr	Ala	Ser	Leu 915	Tyr	Glu	Lys	Ser 920	Thr	Val	Leu	Gln	Ala 925	Ala	Gly	Met
Cys	Val	Val	Cys	Gly	Ser	Gln 935	Thr	Val	Leu	Arg	Cys 940	Gly	Asp	Cys	Leu
Arg	Arg	Pro	Leu	Leu	Cys 950	Thr	Lys	Cys	Ala	Tyr 955	Asp	His	Val	Met	Gly 960
Thr	Lys	His	Lys	Phe 965	Ile	Met	Ser	Ile	Thr 970	Pro	Tyr	Val	Cys	Ser	Phe 975
Asn	Gly	Cys	Asn	Val 980	Asn	Asp	Val	Thr 985	Lys	Leu	Phe	Leu	Gly 990	Gly	Leu
Ser	Tyr	Tyr	Cys	Met	Asn	His	Lys 1000	Pro	Gln	Leu	Ser	Phe	Pro	Leu	Cys 1005
Ala	Asn	Gly	Asn	Val	Phe	Gly 1015	Leu	Tyr	Lys	Ser	Ser	Ala	Val	Gly	Ser 1020
Glu	Ala	Val	Glu	Asp	Phe	Asn 1030	Lys	Leu	Ala	Val 1035	Ser	Asp	Trp	Thr	Asn 1040
Val	Glu	Asp	Tyr	Lys 1045	Leu	Ala	Asn	Asn	Val 1050	Lys	Glu	Ser	Leu	Lys	Ile 1055
Phe	Ala	Ala	Glu	Thr	Val	Lys	Ala	Lys 1065	Glu	Glu	Ser	Val	Lys	Ser	Glu 1070
Tyr	Ala	Tyr	Ala	Val	Leu	Lys	Glu 1080	Val	Ile	Gly	Pro	Lys	Glu	Ile	Val 1085

19

Leu Gln Trp Glu Ala Ser Lys Thr Lys Pro Pro Leu Asn Arg Asn Ser		
1090	1095	1100
Val Phe Thr Cys Phe Gln Ile Ser Lys Asp Thr Lys Ile Gln Leu Gly		
1105	1110	1115 1120
Glu Phe Val Phe Glu Gln Ser Glu Tyr Gly Ser Asp Ser Val Tyr Tyr		
	1125	1130 1135
Lys Ser Thr Ser Thr Tyr Lys Leu Thr Pro Gly Met Ile Phe Val Leu		
	1140	1145 1150
Thr Ser His Asn Val Ser Pro Leu Lys Ala Pro Ile Leu Val Asn Gln		
	1155	1160 1165
Glu Lys Tyr Asn Thr Ile Ser Lys Leu Tyr Pro Val Phe Asn Ile Ala		
	1170	1175 1180
Glu Ala Tyr Asn Thr Leu Val Pro Tyr Tyr Gln Met Ile Gly Lys Gln		
1185	1190	1195 1200
Lys Phe Thr Thr Ile Gln Gly Pro Pro Gly Ser Gly Lys Ser His Cys		
	1205	1210 1215
Val Ile Gly Leu Gly Leu Tyr Tyr Pro Gln Ala Arg Ile Val Tyr Thr		
	1220	1225 1230
Ala Cys Ser His Ala Ala Val Asp Ala Leu Cys Glu Lys Ala Ala Lys		
	1235	1240 1245
Asn Phe Asn Val Asp Arg Cys Ser Arg Ile Ile Pro Gln Arg Ile Arg		
	1250	1255 1260
Val Asp Cys Tyr Thr Gly Phe Lys Pro Asn Asn Thr Asn Ala Gln Tyr		
1265	1270	1275 1280
Leu Phe Cys Thr Val Asn Ala Leu Pro Glu Ala Ser Cys Asp Ile Val		
	1285	1290 1295
Val Val Asp Glu Val Ser Met Cys Thr Asn Tyr Asp Leu Ser Val Ile		
	1300	1305 1310
Asn Ser Arg Leu Ser Tyr Lys His Ile Val Tyr Val Gly Asp Pro Gln		
	1315	1320 1325
Gln Leu Pro Ala Pro Arg Thr Leu Ile Asn Lys Gly Val Leu Gln Pro		
	1330	1335 1340
Gln Asp Tyr Asn Val Val Thr Lys Arg Met Cys Thr Leu Gly Pro Asp		
1345	1350	1355 1360
Val Phe Leu His Lys Cys Tyr Arg Cys Pro Ala Glu Ile Val Lys Thr		
	1365	1370 1375
Val Ser Ala Leu Val Tyr Glu Asn Lys Phe Val Pro Val Asn Pro Glu		
	1380	1385 1390

20

Ser Lys Gln Cys Phe Lys Met Phe Val Lys Gly Gln Xaa Gln Ile Glu
1395 1400 1405

Ser Asn Ser Ser Ile Asn Asn Lys Gln Leu Glu Val Val Lys Ala Phe
1410 1415 1420

Leu Ala His Asn Pro Lys Trp Arg Lys Ala Val Phe Ile Ser Pro Tyr
1425 1430 1435 1440

Asn Ser Gln Asn Tyr Val Ala Arg Arg Leu Leu Gly Leu Gln Thr Gln
1445 1450 1455

Thr Val Asp Ser Ala Gln Gly Ser Glu Tyr Asp Tyr Val Ile
1460 1465 1470

<210> 27

<211> 16

<212> PRT

<213> Transmissible gastroenteritis coronavirus

<400> 27

Met Lys Lys Cys Cys Ile Tyr Tyr Ser Phe Asn Leu Thr Thr Asn Trp
1 5 10 15

<210> 28

<211> 95

<212> RNA

<213> Transmissible gastroenteritis coronavirus

<400> 28

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gaccauguua guagagcuu ugacaucuac aacaa 95

<210> 29

<211> 207

<212> RNA

<213> Transmissible gastroenteritis coronavirus

<220>

<221> modified_base

<222> (57)..(198)

<223> a, u, c, g, other or unknown

<400> 29

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nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 120
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nnnnnnnnnn nnnnnnnngu uaggac 207

<210> 30

<211> 19

<212> RNA

<213> Transmissible gastroenteritis coronavirus

21

<400> 30
caugagcaag ucuguuaua

19

<210> 31
<211> 20
<212> DNA
<213> Transmissible gastroenteritis coronavirus

<400> 31
taatacgact cactataggg

20

<210> 32
<211> 19
<212> DNA
<213> Transmissible gastroenteritis coronavirus

<400> 32
aaaaaaaggg tcggcatgg

19